Problem 1. §4.5, Problem 1.

Problem 2. §4.5, Problem 6

Problem 3. Suppose $f : \mathbb{R} \to \mathbb{R}$ is even and $|f(x)|^2$ is integrable. Show
\[ \langle f, \psi(2^j x - n) \rangle = -\langle f, \psi(2^j x + n + 1) \rangle \]
for all $j \geq 0$ and all integers $n$.

Problem 4. In experimenting with Matlab class project in what ways does the graphed output change when you change the values of $d$? Just as importantly, what remains constant? Answer the same questions using $p = [1/4 \ 3/4 \ 3/4 \ 1/4]$ and varying $d$.